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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

OCT 1 3 2009

MEMORANDUM

SUBJECT: Summary Subset of Analytical Results from the August 5, 2009, Dalton Utilities

Submittal to EPA Report Titled Test America Laboratories, Inc. Analytical Report on Perfluorocarbon (PFC) Analyses Lot #D9E280210; Report Dated

June 30, 2009; 416 pages

FROM:

Connie L. Roberts CAR

Special Assistant to the Director

Water Protection Division

TO:

Note to File

Attached is a summary of a subset of the analytical results from the August 5, 2009, Dalton Utilities submittal to EPA titled: "Test America Laboratories, Inc. Analytical Report on Perfluorocarbon (PFC) Analyses Lot #D9E280210." The full report is dated June 30, 2009 and contains 416 pages.

The attached document provides a summary report for each of 4 samples identified as 1, 2, 3, and 4. The samples are described as follows:

#1: Fresh, dried biosolids cake before the addition of wood waste

#2: Finished compost aged approximately 6 months

#3: Finished compost aged approximately 12 months

#4: Finished compost approximately 18 months

Client Sample ID: #1

HPLC

Lot-Sample #: D9E280210-001 Date Sampled: 05/26/09 13:1! Prep Date: 06/04/09 Prep Batch #: 9155502 Dilution Factor: 1 * Moisture: 78	Work Order #: Date Received: Analysis Date: Analysis Time: Method	05/28/09 06/13/09 18:04		x SOLID
		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	MDL
Perfluorotetradecanoic acid (P	17 J	23	ug/kg	6,7
FTeA)				
Perfluorododecanoic acid (PFDo A)	230	23	ug/kg	3.8
Perfluorotridecanoic acid (PFT riA)	410	23	ug/kg	5.3
Perfluorobutanoic acid (PFBA)	38	9.3	ug/kg	1.6
Perfluoropentanoic acid (PFPA)	30	9.3	ug/kg	4.1
Perfluorohexanoic acid (PFHxA)	55	9.3	ug/kg	0.93
Perfluoroheptanoic acid (PFHpA	11	9.3	ug/kg	3.3
)			~3/ kg	3.3
Perfluorononanoic acid (PFNA)	94	9.3	ug/kg	2.3
Perfluorodecanoic acid (PFDA)	480	9.3	ug/kg	3.5
Perfluorobutane sulfonate (PFB	190	9.3	ug/kg	3.9
S)				
Perfluorohexane sulfonate (PFH xS)	ND	9.3	u g /kg	3.6
Perfluorodecane sulfonate (PFD S)	1.4 J	9.3	ug/kg	1.3
Perfluorooctanesulfonate	210	9.3		
Perfluorooctanoic Acid		23	ug/kg ug/kg	1.7
		23	ug/kg	4.7
•	PERCENT	RECOVERY		
SURROGATE		LIMITS		
13C4 PFOA		(50 - 200)		
13C4 PFOS		(50 - 200)		
13C4 PFBA		(50 - 200)		
13C2 PFHxA		(50 - 200)		
1802 PFHxS		(50 - 200)		
13C5 PFNA	74	(50 - 200)		
13C2 PFDA		(50 - 200)		
		(50 - 200)		
13C2 PFDoA		(50 - 200)		

Results and reporting limits have been adjusted for dry weight.

NOTE(S):

J Estimated result. Result is less than RL.

Client Sample ID: #1

HPLC

Lot-Sample #: D9E280210-001 Date Sampled: 05/26/09 13:15 Prep Date: 06/16/09 Prep Batch #: 9167471 Dilution Factor: 1	Work Order #: Date Received: Analysis Date: Analysis Time:	05/28/09 06/25/09	Matrio	c: SOLID
% Moisture: 78	Method:		12	
PARAMETER Perfluoroctane sulfonamide (F	RESULT 86	REPORTING LIMIT 23	UNITS ug/kg	MDL 5.7
OSA)			4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
SURROGATE MeFOSA	PERCENT RECOVERY 59	RECOVERY LIMITS (50 - 200)	•	

NOTE(S):

Client Sample ID: #1

HPLC

Lot-Sample #...: D9E280210-001 Work Order #...: LDV5Q2AA Matrix..... SOLID Date Sampled...: 05/26/09 13:15 Date Received..: 05/28/09

Prep Date....: 06/04/09 Analysis Date..: 06/14/09 Prep Batch #...: 9155502 Analysis Time..: 20:19

Dilution Factor: 20 * Moisture....: 78

Method..... DEN -LC-0012

REPORTING PARAMETER RESULT LIMIT UNITS MDL Perfluoroundecanoic acid (PFUn 460 ug/kg 170

PERCENT RECOVERY SURROGATE RECOVERY LIMITS 13C2 PFUnA

92 (50 - 200)NOTE(S):

Client Sample ID: #2

HPLC

Lot-Sample #:	D9E280210-002	Work Order #:	LDV5X1AA	Matrix:	SOLID
Date Sampled:	05/26/09 13:45	Date Received:	05/28/09		
Prep Date:	06/04/09	Analysis Date:	06/13/09		
Prep Batch #:	9155502	Analysis Time:	18:53		

Dilution Factor: 1 * Moisture....: 56

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorotetradecanoic acid (P	93	11	ug/kg	3.3
FTeA)				
Perfluorobutanoic acid (PFBA)	93	4.6	ug/kg	0.78
Perfluoropentanoic acid (PFPA)	100	4.6	ug/kg	2.0
Perfluorohexanoic acid (PFHxA)	170	4.6	ug/kg	0.46
Perfluoroheptanoic acid (PFHpA	290	4.6	ug/kg	1.7
Perfluorohexane sulfonate (PFH xS)	13	4.6	ug/kg	1.8
Perfluorodecane sulfonate (PFD S)	ND	4.6	ug/kg	0.66
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
13C4 PFOA	70	(50 - 200)	
13CA DEOS	82	(50 - 200)	

PERCENT	LIMITS		
RECOVERY			
70	(50 - 200)		
82	(50 - 200)		
75	(50 - 200)		
85	(50 - 200)		
82	(50 - 200)		
73	(50 - 200)		
73	(50 - 200)		
75	(50 - 200)		
71	(50 - 200)		
	RECOVERY 70 82 75 85 82 73 73		

NOTE (S):

Client Sample ID: #2

HPLC

Lot-Sample #...: D9E280210-002 Work Order #...: LDV5X1AD Matrix....: SOLID Date Sampled...: 05/26/09 13:45 Date Received..: 05/28/09 Prep Date....: 06/16/09 Analysis Date..: 06/25/09 Prep Batch #...: 9167471 Analysis Time..: 13:22 Dilution Factor: 10 * Moisture....: 56 Method....: DEN -LC-0012 REPORTING PARAMETER RESULT LIMIT UNITS MDL Perfluorooctane sulfonamide (P 270 110 ug/kg OSA) PERCENT RECOVERY SURROGATE RECOVERY LIMITS MeFOSA 113 (50 - 200)

NOTE(S):

Client Sample ID: #2

HPLC

Lot-Sample #: D9E280210-002	Work Order #:	LDV5X2AA	Matrix SO	
Date Sampled: 05/26/09 13:45	Date Received:	05/28/09		•
Prep Date: 06/04/09	Analysis Date:	06/14/09		
-	Analysis Time:			
Dilution Factor: 20	_			
t Moisture: 56	Method:	DEN -LC-00	12	
		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	MDL
 Perfluoroundecanoic acid (PFUn	660	230	ug/kg	83
 A)	4.44.44.44.44.44.44.44.44.44.44.44.44.4			
Perfluorododecanoic acid (PFDo	450	230	ug/kg	37
A)				
Perfluorotridecanoic acid (PFT	240	230	ug/kg	53
riA)				
Perfluorononanoic acid (PFNA)	560	91	ug/kg	23
Perfluorodecanoic acid (PFDA)	2100	91	ug/kg	34
Perfluorobutane sulfonate (PFB	500	91	ug/kg	38
S)				
Perfluorooctanesulfonate	550	91	ug/kg	17
Perfluorooctanoic Acid	1900	230	ug/kg	46
				•
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
13C4 PFOA	102	(50 - 200)		
13C4 PFOS	101	(50 - 200)		
13C4 PFBA	97	(50 - 200)		
13C2 PFHxA	102	(50 - 200)		
1802 PFHxS	103	(50 - 200)		
13C5 PFNA	97	(50 - 200)		

(50 - 200) (50 - 200) (50 - 200)

100

101

107

NOTE (S):

13C2 PFDA

13C2 PFUnA

13C2 PFDoA

Client Sample ID: #3

HPLC

Lot-Sample #...: D9E280210-003 Work Order #...: LDV501AD Matrix.....: SOLID

Date Sampled...: 05/26/09 14:10 Date Received..: 05/28/09
Prep Date....: 06/16/09 Analysis Date..: 06/25/09

Prep Batch #...: 9167471 Analysis Time..: 20:10

Dilution Factor: 1

* Moisture....: 56

Method.....: DEN -LC-0012

0012

PARAMETER RESULT LIMIT UNITS MDL
Perfluorooctane sulfonamide (F 170 11 ug/kg 2.8

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS

MeFOSA 71 (50 - 200)

Results and reporting limits have been adjusted for dry weight.

(AZO

NOTE(S):

Client Sample ID: #3

HPLC

	Lot-Sample #: D9E280210-003 Date Sampled: 05/26/09 14:10 Prep Date: 06/04/09 Prep Batch #: 9155502 Dilution Factor: 1		05/28/09 06/13/09	Matrix	SOLID
	* Moisture: 56	Method:	DEN -LC-00	12	
			REPORTING		
	PARAMETER	RESULT	LIMIT	UNITS	MDL
	Perfluorotetradecanoic acid (P		_11	ug/kg	
J.,	FTeA)				
	Perfluorobutanoic acid (PFBA)	100	4.5	ug/kg	0.77
	Perfluoropentanoic acid (PFPA)	210	4.5	ug/kg	2.0
	Perfluorohexane sulfonate (PFH	9.7	4.5	ug/kg	1.7
	xS)			4.	
	Perfluorodecane sulfonate (PFD	1.1 J	4.5	ug/kg	0.66
	S)	*			
		PERCENT	RECOVERY		
	SURROGATE	RECOVERY	LIMITS		
	13C4 PFOA	55	(50 - 200)		
	13C4 PFOS	79	(50 - 200)		
	13C4 PFBA	74	(50 - 200)		
	13C2 PFHxA	80	(50 - 200)		
	1802 PFHxS	82	(50 - 200)		
	13C5 PFNA	65	(50 - 200)		
	13C2 PFDA	70	(50 - 200)		
	13C2 PFUnA	68	(50 - 200)		
	13C2 PFDoA	64	(50 - 200)		
	NOTE (S):				

J Estimated result. Result is less than RL.

Client Sample ID: #3

HPLC

<pre>ample #: D9E280210-003 Sampled: 05/26/09 14:10 Date: 06/04/09 Satch #: 9155502 ion Factor: 20 sture: 56</pre>	Date Received: Analysis Date: Analysis Time:	05/28/09 06/14/09 21:24		SOLID
TER NOTONOMANOIC ACID (PFNA)	RESULT	REPORTING LIMIT	UNITS	MDL
consideration actually (Profit	200	230	ug/kg	82
orododecanoic acid (PFDo	240	230	ug/kg	37
orohexanoic acid (PFHxA)	140	90	ng/kg	9.1
oroheptanoic acid (PFHDA	270	90		33
		30	ug/kg	33
orodecanoic acid (PFDA)	2000	90	na/ka	34
	550		J. J	
, , , , , , , , , , , , , , , , , , , ,		30	ug/kg	38
orooctanesulfonate	230	90	na /ka	17
		230	ug/kg	46
	PERCENT	RECOVERY		
ATE				
FOA				
FOS	85			
	· ·			
	· -			
		•		
	• •	(50 - 200)		
	campled: 05/26/09 14:10 Date: 06/04/09 Datch #: 9155502 On Factor: 20 Dature: 56 TER Derononanoic acid (PFNA) Derononanoic acid (PFNA) Derononanoic acid (PFNA) Deronometranoic acid (Sampled: 05/26/09 14:10 Date Received: Date: 06/04/09 Analysis Date Date #: 9155502 Analysis Time Date #: 9155502 Analysis Date Date #: 9155502 Ana	Analysis Time.: 21:24 con Factor: 20 sture: 56 Method: DEN -LC-00 REPORTING LIMIT Analysis Time.: 21:24 RESULT REPORTING LIMIT Analysis Time.: DEN -LC-00 REPORTING LIMIT ANA ANA ANA RESULT ANA ANA RESULT ANA RESULT ANA ANA ANA ANA BEPORTING LIMIT ANA ANA ANA BO COCOMBERATION ANA ANA ANA BO ANA ANA ANA AN	Sampled: 05/26/09 14:10 Date Received: 05/28/09 Date: 06/04/09 Analysis Date: 06/14/09 Analysis Date: 06/14/09 Analysis Date: 06/14/09 Analysis Time: 21:24 DEN -LC-0012 DEN -LC

(50 - 200)

81

Results and reporting limits have been adjusted for dry weight.

13C2 PFDoA

NOTE (S):

Client Sample ID: #3

HPLC

Lot-Sample #:	D9E280210-003	Work	Order	#:	LDV503AA	Matrix:	SOLID
			_	-	1 1		

Date Sampled...: 05/26/09 14:10 Date Received..: 05/28/09 Prep Date....: 06/04/09 Analysis Date..: 06/16/09

Analysis Time..: 14:33 Prep Batch #...: 9155502

Dilution Factor: 10 Method.....: DEN -LC-0012 **% Moisture....:** 56

REPORTING MDL LIMIT UNITS RESULT PARAMETER

110 ug/kg Perfluorotridecanoic acid (PFT 290

riA)

RECOVERY PERCENT RECOVERY LIMITS SURROGATE (50 - 200)13C2 PFDoA 107

Client Sample ID: #4

HPLC

Lot-Sample #...: D9E280210-004 Work Order #...: LDV511AA Matrix...: SOLID

Date Sampled...: 05/26/09 14:20 Date Received..: 05/28/09

Prep Date....: 06/04/09 Analysis Date..: 06/13/09

Prep Batch #...: 9155502 Analysis Time..: 19:25

Dilution Factor: 1

* Moisture...: 42 Method....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MOT	
Perfluorotetradecanoic acid (P	85	8.6	ug/kg	MDL 2.5	
Perfluorobutanoic acid (PFRA)	77	3.4	ug/kg	0.59	
Perfluoropentanoic acid (PFPA) Perfluorohexane sulfonate (PFH xS)	160 19	3.4 3.4	ug/kg ug/kg	1.5 1.3	
Perfluorodecane sulfonate (PFD S)	0.95 J	3.4	ug/kg	0.50	

OID DOGS	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
13C4 PFOA	51	(50 - 200)
13C4 PFOS	74	(50 - 200)
13C4 PFBA	69	(50 - 200)
13C2 PFHxA	80	(50 - 200)
1802 PFHxS	82	(50 - 200)
13C5 PFNA	69	(50 - 200)
13C2 PFDA	66	(50 - 200)
13C2 PFUnA	67	
13C2 PFDoA	63	(50 - 200) (50 - 200)

NOTE(S):

J Estimated result. Result is less than RL.

Client Sample ID: #4

HPLC

Lot-Sample #: D9E280210-004 Date Sampled: 05/26/09 14:20 Prep Date: 06/16/09 Prep Batch #: 9167471 Dilution Factor: 10 * Moisture: 42	Work Order #: Date Received: Analysis Date: Analysis Time: Method:	05/28/09 06/25/09 00:00		: SOLID
PARAMETER Perfluoroctane sulfonamide (F	RESULT	REPORTING LIMIT 86	UNITS ug/kg	MDL 21
OSA) SURROGATE MeFOSA	PERCENT RECOVERY	RECOVERY LIMITS (50 - 200)		

NOTE (S):

MeFOSA

Client Sample ID: #4

HPLC

Lot-Sample #...: D9E280210-004 Work Order #...: LDV512AA Matrix..... SOLID Date Sampled...: 05/26/09 14:20 Date Received..: 05/28/09 Prep Date....: 06/04/09 Analysis Date..: 06/14/09 Analysis Time..: 21:40

Prep Batch #...: 9155502 Dilution Factor: 20

* Moisture....: 42

Method....: DEN -LC-0012

DAD AMERICA		REPORTING	REPORTING			
PARAMETER	RESULT	LIMIT	UNITS	MDL		
Perfluoroundecanoic acid (PFUn	610	170	ug/kg	62		
A			33			
Perfluorododecanoic acid (PFDo	320	170	ug/kg	28		
A)			ug/ ng	20		
Perfluorotridecanoic acid (PFT	230	170	ug/kg	40		
riA)			ag/ kg	40		
Perfluorohexanoic acid (PFHxA)	190	69	/b			
Perfluoroheptanoic acid (PFHpA	320	69	ug/kg	6.9		
)		03	ug/kg	25		
Perfluorononanoic acid (PFNA)	400	69	/>			
Perfluorodecanoic acid (PFDA)	2000	69	ug/kg	17		
Perfluorobutane sulfonate (PFB	610	69	ug/kg	26		
S)		69	ug/kg	29		
Perfluorooctanesulfonate	360	69	ug/kg	13		
	PERCENT	RECOVERY				
SURROGATE	RECOVERY	LIMITS				
13C4 PFOA	99	(50 - 200)	-			
13C4 PFOS	98	(50 - 200)				
13C4 PFBA	95	(50 - 200)				
13C2 PFHxA	99	(50 - 200)				
1802 PFHxS	102	(50 - 200)				
13C5 PFNA	103	(50 - 200)				
13C2 PFDA	94	-				
13C2 PFUnA	99	(50 - 200)				
13C2 PFDoA	103	(50 - 200)				
		(50 - 200)				
NOTE(S):						

Client Sample ID: #4

HPLC

Lot-Sample #: D9E280210-004 Date Sampled: 05/26/09 14:20 Prep Date: 06/04/09 Prep Batch #: 9155502	Work Order #: Date Received: Analysis Date: Analysis Time:	05/28/09 06/16/09	Matrix	Matrix S		
Dilution Factor: 50 Moisture: 42	Method:	DEN -LC-0012				
PARAMETER Perfluorooctanoic Acid	RESULT 4500	REPORTING LIMIT 430	UNITS ug/kg	MDL 88		
SURROGATE	PERCENT RECOVERY 102	RECOVERY LIMITS (50 - 200)				

NOTE(S):

13C4 PFOA

Client Sample ID: #1

General Chemistry

Lot-Sample #...: D9E280210-001 Work Order #...: LDV5Q Matrix....: SOLID Date Sampled...: 05/26/09 13:15 Date Received..: 05/28/09

*** Moisture....:** 78

Client Sample ID: #2

General Chemistry

Lot-Sample #...: D9E280210-002 Work Order #...: LDV5X Matrix....: SOLID

Date Sampled...: 05/26/09 13:45 Date Received..: 05/28/09

* Moisture....: 56

Client Sample ID: #3

General Chemistry

Matrix..... SOLID

Lot-Sample #...: D9E280210-003 Work Order #...: LDV50

Date Sampled...: 05/26/09 14:10 Date Received..: 05/28/09

* Moisture....: 56

Client Sample ID: #4

General Chemistry

Lot-Sample #...: D9E280210-004 Work Order #...: LDV51
Date Sampled...: 05/26/09 14:20 Date Received..: 05/28/09 Matrix..... SOLID

* Moisture....: 42

PREPARATION- PREP METHOD METHOD ANALYSIS DATE BATCH #
ASTM D 2216-90 05/29/09 9149280 UNITS RESULT PARAMETER 0.10 Percent Moisture 42 Analysis Time..: 13:00 MDL..... 0.0 Dilution Factor: 1